REMARKS

In the Office Action mailed December 1, 2004, claims 1-17 are pending in the application. The Applicants respectfully request reconsideration of claims 1-17.

Claims 1-11, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuman et al (US 2003/0065432) in view of Tsutsumi et al (US 5,617,085) and further in view of Winner et al (US 6,580,385). Claims 12, 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuman et al (US 2003/0065432) in view of Tsutsumi et al (US 5,617,085) and further in view of Winner et al (US 6,580,385) and Sato et al (US 3,778,823).

Claim 6 is objected to because the Examiner believes that "said region" should be changed to "said critical zone." Accordingly, the Applicants amend claim 6 in accordance with the Examiner's suggestion.

Regarding claims 1-2 and 7-9, the Office Action suggests that Shuman teaches a crash assessment and safety activation system comprising: a first remote sensor 202(7) (fig.4) and a first visual sensor 202(5) (fig.4) (para 0064), a first safety device actuator to activate a first safety device, a controller 210, 230 (fig.2) for controlling a first safety device in response to the result concluded from the first remote and visual sensor (para 0069; 0086; 0154; 0166). The Office Action recognizes that Shuman does not explicitly suggest letting the visual sensor sense at least a portion of the region sensed by the remote sensor and generating confirmation signal. However, the Office Action asserts that since Shuman teaches providing images and distance of the objects sensed by the

remote sensor (para 0154), Shuman therefore teaches that the visual sensor senses at least a portion of region sensed by the remote sensor. The Office Action further alleges that Winner also teaches the capability of detecting possible obstacles when the vehicle enters the critical region that is within 2m-1 from the vehicle (col.3, lines 11-27).

Moreover, according to the Office Action, Shuman teaches using both data from the remote and visual sensor for confirming the existence as well as position and size of objects to determine activation of safety devices (para 0086, 0154), further, according to the Office Action, Tsutsumi teaches confirming the target object using both first object signal and visual signal (col.13, lines 40-64; col. 14, lines 3-7, lines 61-67; col. 13, lines 15-67; col. 16, lines 1-24).

Although Applicants believe the claims are not obvious in view of the prior art, Applicants nevertheless amend claims 1, 9, and 14 to include that the visual system generates a signal indicating that the vehicle is or is not a vehicle at least one update cycle prior to said first target object reaching said critical zone from paragraph [0030] of the Detailed Description, which is not taught or suggested in the Shuman, Tsutsumi, or Winner references. This sets a threshold for the sensing system such that a vehicle may be tracked by a remote sensor, but when it is at least one controller update cycle from the critical distance, the visual sensor will generate a determination as to whether it is a vehicle or not. Therefore, because all the elements of claims 1, 9, and 14 are not taught or suggested in the prior art, these claims are believed to be allowable.

Claims 2-8, 10-13, and 15-17 depend from claims 1, 9, and 14 and are believed to be allowable for at least this reason.

The Applicants further submit that it would not have been obvious to combine the Shuman, Tsutsumi, and Winner references to arrive at the present invention. No reason is shown why one of ordinary skill in the art would modify the Shuman, Tsutsumi, or Winner references as the Office Action proposes. The references are not pertinent to the problem of eliminating false activation of safety devices through defining an area relative to the critical zone, as claimed by the Applicants.

Shuman, Tsutsumi, and Winner are not directed towards, nor do they teach, defining an area relative to a critical zone as in claims 1, 9, and 14. Shuman and Tsutsumi do not include sensors specifically sensing a zone near the host vehicle. Although Winner includes near vehicle sensors that may sense near vehicle data, these are included merely to provide complete coverage of the external of the vehicle, i.e. have as large a detection zone as possible. See Summary of the Invention. It is well known that more sensitive sensors will have a limited coverage range. However, what is not well known nor included in Winner is that a critical zone may be predetermined such that, when sensor data of an oncoming vehicle signals that the oncoming vehicle is almost within the critical zone, a vision sensor will, at the moment it crosses into the critical zone, verify that it is an oncoming vehicle. It is, among other things, the defining of the area relative to the critical zone and the generation of a vehicle or no vehicle signal

in the area relative to the critical zone that is new and nonobvious. Applicants therefore submit that no motivation has been shown to combine the references as proposed.

"Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination." ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1672, 1577, 221 USPQ 929, 933 (Fed.Cir. 1984). Even if all the elements of Applicant's invention are disclosed in various prior art references, the claimed invention taken as a whole cannot be said to be obvious without some reason given in the prior art why one of ordinary skill would have been prompted to combine the teachings of the references to arrive at the claimed invention. Therefore, because no teaching or suggestion is found in any of the references for eliminating false activation of safety devices through defining an area relative to the critical zone, claims 1, 9, and 16 is believed to be allowable.

Claims 12 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuman in view of Tsutsumi and further in view of Winner et al. (US 2003/0065432) and Sato et al (US 3,778,823). According to the Office Action, claims 12 and 14-17 are taught in Sato, which includes determining whether a potential for collision is within a safety device activation threshold (col.6, lines 23-30; col.7, lines 1-13; col. 10, lines 32-61).

Claims 12 and 14-17 are not obvious in view of Shuman, Tsutsumi, Winner, and Sato for at least the reasons discussed above. Further, Sato is directed to a conventional vehicle safety system, more importantly, Sato is not directed to the verification and

analysis system of the present invention. Sato does not include, nor does it suggest, a visual sensor to verify that an oncoming object is a vehicle or other object. Instead, Sato makes determinations based merely on relative angle and relative speed of the oncoming object. Abstract. The "threshold" of Sato is subject at the same limitations as many prior art systems in that no verification is provided at the moment the object enters the critical zone. Resultantly, when responding to threshold information, safety devices of Sato may be improperly activated. The claimed invention eliminates this possibility by including a visual confirmation one controller update cycle prior to the moment the object passes into the critical zone; and claims 12 and 14-17 are believed to be allowable for at least this additional reason.

In view of the aforementioned remarks, it is respectfully submitted that all pending claims are in a condition for allowance. A notice of allowability is therefore respectfully solicited.

Please charge any fees required in the filing of this amendment to Deposit Account 50-0476.

Respectfully submitted,

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